

HA5: Grasslands, Meadows and Pasture

Definition

This audit covers areas of unimproved and semi-improved neutral grassland. Traditionally, neutral grasslands were managed as hay meadows or pasture, but today these terms are used rather loosely to describe a variety of grassland types. Generally pastures are grazed for most or all of the year, whilst meadows are allowed to grow through spring and early summer and are then cut during June and July - the cuttings being dried and removed for hay (Hare 1988). In London many grasslands may also be managed for informal recreation or as playing fields.

The principle factors that determine the species composition of neutral grassland are soil type, moisture and management (past and present). Much of London's neutral grassland is found on London Clay sometimes overlain with the sands and loams of the Claygate Beds. The category of unimproved and semi-improved grassland covers a wide range of communities, from rye-grass leys which are floristically very poor, to traditionally managed 'old meadow' communities which are generally rich in species.

London's grassland, meadow and pasture resource

Thomas Milne's map of London (1800) shows much of the area surrounding what was then London (essentially what is now the City of London and the City of Westminster) to be meadows and pastures (Hare 1984). Although the area of neutral grassland has been considerably reduced over the years, it is still relatively widespread throughout London and is a significant habitat type in many outer London Boroughs. The City of London is the only borough that does not have any significant areas of neutral grassland.

There are approximately 11,000 hectares of neutral grassland in London - a considerable area when compared with the meagre acid grassland resource of just 1,200 hectares. Hillingdon has the largest total area of neutral grassland in Greater London with just over 2,000 ha, or 19% of the total for London. Bromley has 1,600 ha (15% of the London total) and Havering has 1,300 ha of neutral grassland (12% of the London total). The approximate figures for remaining boroughs are shown in Table 1 and represented by the Map.

Table 1: Grasslands, Meadows and Pasture Resource within Greater London

Borough	Total Grasslands, Meadows and Pasture (ha)	Percentage of London's resource (%)
City of London	0	0
City of Westminster	1.8	(0.02)
Barking & Dagenham	230	2.1
Barnet	850	7.9
Bexley	340	3.1
Brent	120	1.2
Bromley	1 600	15
Camden	50	0.5
Croydon	420	3.9

Borough	Total Grasslands, Meadows and Pasture (ha)	Percentage of London's resource (%)
Ealing	240	2.3
Enfield	510	4.8
Greenwich	190	1.8
Hackney	2	(0.02)
Hammersmith & Fulham	19	0.2
Haringey	76	0.7
Harrow	410	3.8
Havering	1 300	12
Hillingdon	2 000	19
Hounslow	390	3.6
Islington	8	(0.07)
Kensington & Chelsea	12	0.1
Kingston upon Thames	160	1.5
Lambeth	15	0.1
Lewisham	92	0.9
Merton	100	1
Newham	180	1.7
Redbridge	460	4.3
Richmond upon Thames	330	3
Southwark	43	0.4
Sutton	210	2
Tower Hamlets	16	0.2
Waltham Forest	250	2.4
Wandsworth	66	0.6
London Total	11,000 ha	

NB: Numbers have been rounded to two significant figures. From London Wildlife Habitat Survey, 1984/5 and Fuller 1987

The Southeast England regional biodiversity audit (Wicks & Cloughley 1998) recorded acid and neutral grassland together as one habitat type. The audit also excluded semi-improved neutral grassland. As such it was not possible to compare the two audits and place London's resource within a regional context.

In a national context, semi-natural grasslands now cover 600,000 hectares in lowland England and Wales (only 11% of the total lowland grassland area) (Fuller 1987). Unimproved (species-rich) grasslands total less than 12,000 ha. The semi-natural grassland resource in Greater London is therefore significant, especially when compared with the remaining resource in the arable eastern counties of England. However, the amount of unimproved (species-rich) neutral grassland in Greater London is, as nationally, a tiny fraction of the national total.

Nature Conservation Importance

It has been suggested that the loss of neutral grasslands in the lowlands represents the greatest reduction of wildlife habitat over the last 45 years (NCC, 1984). Between 1930 and 1984 semi-natural lowland grassland decreased by an estimated 97 in England and Wales (Fuller 1987), leaving just 3 undamaged by intensification (NCC, 1984). The extent and quality of the neutral grassland in London has shown a similar decline. Although neutral grasslands are still relatively common in London, unimproved (species-rich) neutral grasslands are particularly rare.

London's neutral grasslands can be rich in wildflowers and there may be more than a dozen species of grass. Commonly occurring grass species on London's neutral grassland include cocksfoot, Yorkshire fog, and sweet vernal grass. Nationally rare or declining wildflower species can be found amongst these grasses, including (in a handful of sites); meadow rue *Thalictrum flavum*, yellow vetchling *Lathyrus aphaca*, and chamomile *Chamaemelum nobile*. Other more typical neutral grassland species in London include pignut *Conopodium majus*, pepper saxifrage *Silaum silaus*, meadow vetchling *Lathyrus pratensis*, sneezewort *Achillea ptarmica*, black knapweed *Centaurea nigra* and cuckoo-flower *Cardamine pratensis*.

Several species of bird are also associated with neutral grassland habitat. The most evocative is perhaps the skylark, although this species, as well as short eared owl and meadow pipit which are also typical grassland species, require relatively large areas of grassland habitat and are not often encountered in the smaller patches of semi-natural grassland in London. Swallows, which regularly hawk for invertebrate prey over meadows and pastures, also require relatively large areas of habitat and are therefore largely confined to the outer London boroughs. The kestrel is less demanding and may hunt across widely scattered patches of grassland including road verges and uncut corners of playing fields and other amenity grasslands.

Neutral grasslands are also valuable for invertebrates. Several species of butterfly are dependent largely on semi-natural neutral grassland; meadow brown and common blue are relatively widespread, but small heath, small copper and Essex skipper are often confined to the better quality grassland sites. Many moth species occur in neutral grassland; the six-spot burnet moth is well distributed across London, whereas the chimney sweeper is restricted to a few sites which have never been subject to agricultural improvement. Perhaps one of the most characteristic grassland invertebrates is Roesel's bush cricket, which occurs widely in grasslands throughout London. Conversely, species such as the tube-web spider *Atypus affinis* is only known to occur in a single location on Hampstead Heath.

Some grassland, meadow and pasture sites of nature conservation value in Greater London

Arrandene Open Space and Featherstone Hill, LB Barnet

Belmont Pasture, LB Bromley

The Chase Nature Reserve, LB Barking and Dagenham

Islip Manor, LB Ealing

Pippenhall Meadows, LB Greenwich

Yeading Brook Meadows, LB Hillingdon

Threats and Opportunities

Threats

Lowland neutral grassland has declined in quality and extent. The main threats currently affecting the habitat include:

- Agricultural improvement such as fertiliser application, ploughing, drainage and reseeded.
- Mowing and draining rough grasslands on golf-courses, country parks and playing fields to expand opportunities for formal recreation.
- Lack of appropriate management neglect e.g. too frequent cutting, or over-grazing, resulting in a reduction of herb species in the sward; or lack of mowing or grazing resulting in reversion to rank grassland and scrub.
- Fragmentation and isolation of the remaining habitat, particularly where areas of relatively species-rich neutral grassland become isolated on road-verges, golf course roughs or within an intensively farmed landscape.
- Inappropriate tree-planting, particularly on rough grasslands which support important populations of invertebrates or grassland birds but may not be botanically diverse.
- Direct loss of habitat due to development, particularly where the value of the grassland has been masked by frequent cutting or over-grazing.

An important matter, particularly in London, is of the value of neutral grasslands being 'masked' by current management. It is likely that many potentially valuable areas of neutral grassland fall within frequently mown public parks and amenity open spaces, or in the many horse-grazed fields in London's Green Belt. Relaxation of mowing or grazing can reveal areas of quite species-rich grassland.

Opportunities

This habitat is a high priority for action due to the severe decline in quantity and quality of this habitat nationally and the relatively large neutral grassland resource found within London.

Several areas of relatively species-rich neutral grassland could be restored by relaxation of mowing regimes in some of London's older public parks and open spaces. Relaxation or modification of mowing regimes should be implemented after thorough survey to ensure that the areas that revert to a more natural sward are the most species-rich areas. Uncut areas of perennial ryegrass (the typical constituent of amenity swards) are of little value to people or wildlife. Rough grassland has already been restored in parts of some London parks with very beneficial results.

The restoration of a sympathetic grazing regime would be particularly beneficial to many neutral grassland sites. Although the botanical interest of several good quality grasslands in London is maintained by mowing or hay-making this is not usually the most beneficial management technique for biodiversity generally. Grazing is a more subtle form of management and creates a much wider range of micro-habitats which can be exploited by invertebrates and plant species which need gaps in the sward.

Making better use of grass as a crop (preferably hay) could encourage more sympathetic management. Presently the disposal of arisings is one of the main problems of managers of grassland sites where grazing is not an option. Encouraging machinery rings, where local authorities and private landowners share use of equipment such as cutters and balers, might help stimulate the restoration of some grassland sites to hay meadows. The meadows at Fryent Country Park in Brent are cut for hay and are certified under the Soil Association's organic standard.

Data Sources Grasslands

Fuller R.M. (1987). *The changing extent and conservation interest of lowland grasslands in England and Wales: A review of grassland surveys 1930-84*. Biological Conservation 40, 281-300.

Hare T. (1988). *London's Meadows and Pastures*. Ecology Handbook 8. London Ecology Unit.

HMSO (1995). *Biodiversity: The UK Steering Group Report. Volume 2 Action Plans*. London HMSO.

London Wildlife Habitat Survey (1984/5). Held by LEU, includes habitat dot distribution maps, aggregated area figures and standardised information on every survey parcel.

NCC (1984). *Nature Conservation in Great Britain*. Shrewsbury. Nature Conservancy Council.

Wicks, D & Cloughley, P (Eds) (1998). *The Biodiversity of Southeast England: An Audit and Assessment*. Hampshire and Isle of Wight Wildlife Trust.

Rationale and limitations of approach

This audit covers areas of unimproved and semi-improved neutral grassland. The main area for potential overlap was with 'wet' grassland and marshes. These have been addressed within separate audits ('Floodplain Grassland and Grazing Marsh' and 'Marshland'; audits HA7 and HA8 respectively).

Where 'wet' grassland was present, the following procedure was employed to attempt to gain a good estimate of neutral grassland. Data was taken from the London Wildlife Habitat Survey (1984/5). For each wet site, habitat parcel sheets were used to find out the area of parcel and the percentage of neutral grassland within the parcel. It was then possible to remove wet neutral grassland from borough and produce total neutral grassland figures for London.

However the following limitations should be noted:

- The figure taken as wet grassland will be artificially enhanced due to an amalgamation with dry neutral grassland within the same habitat parcel.
- Sites with the wet overlay do not represent the full resource, as the wet overlay category was not a specified parameter within the 1984 Habitat Survey. Wet areas may have gone unrecorded.
- Wet grassland may also have been omitted due to the seasonal nature of the habitat.
- In addition, it is likely that neutral grassland is under-recorded owing to difficulties in locating all examples of this habitat.

This approach removed some of the wet grassland resource for inclusion in the Grazing Marsh and Floodplain Grassland Audit (HA7).